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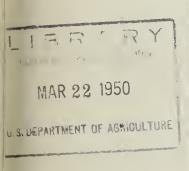
4U.S. DEPARTMENT OF AGRICULTURE

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U.S. SCIENCE AIDS COFFEE PRODUCTION





A Guatemalan girl picking coffee. Women and children do most of the coffee harvesting. The pickers try to select the ripe red cherries, leaving the green immature fruit on the tree for later harvest. In Guatemala many of the coffee pickers are Indians who live on small subsistence farms in the highlands and migrate to the coffee "fincas" or farms in the harvest season to earn cash. They are paid by the amount they pick. OFAR-G-558

More coffee for the United States and more income for Central America. These two developments are expected to come out of the coffee improvement work now going on in Central American countries, with the United States Department of Agriculture cooperating.

The improvement project is now in its fourth year. Researchers feel that already they have uncovered enough new data that, when put to full use, coffee planters in Central America can double or even treble their yields. The project is going ahead on a long-range basis, and researchers are



2. Interesting patterns appear on the concrete drying floors as laborers move the coffee beans about so that they will dry evenly in the sun. Before the beans are spread out to dry they have been put through beating machines to remove skins and pulp and have been washed in large quantities of water to remove a sticky "honey" that adheres to the bean. OFAR-G-350



An American visitor to the Guatemalan coffee nursery notes the wide variation in yield between coffee trees. (She's Miss Janie Cowgill, 18, Glenn Dale, Md., sister of the U.S. scientist in charge of the coffee improvement work.) Guatemalan coffee trees yield anywhere from I/10th of a pound (left basket) to 14 pounds per year (right basket). The average is about one pound per tree per year. Just as the U.S. has improved crops and increased yields, Guatemala is doing likewise with coffee. OFAR-G-590

confident that many more facts about best ways to greather results pertain specifically to Central Americal countries for whatever use can be made of them.

The cooperative work is centered in Guatemala, to shoulder with agricultural scientists of each of of agricultural improvement in Central America in which scale, the program resembles the much-discussed Point

The researchers are improving coffee growing in fruit growers of the United States. Selection of best main objectives. Though the highland coffees of Cedone to improve their yield, says Dr. William H. Cowwork in Guatemala. He says further:

"Coffee growing here is at about the same stage started going around scattering seeds. The United S selecting superior trees and propagating them. Coffee

Significantly, Dr. Cowgill's right-hand assistan has studied fruit growing at Wenatchee, Washington.

One big problem facing Central American coffee g 30 percent of the trees give about 70 percent of the yielding trees is needed. The practice should res American farmers get rid of their "boarder" cows and yield records preparatory to beginning such culling. all over the world, selecting the best ones, and get

Also needed by Central American coffee growers helpful in El Salvador in controlling the serious roc preventing erosion. A method has been developed in Coaby stripping coffee leaves from the trees at a certain coffee trees can feasibly be planted per acre. Also, maintain soil fertility. In some areas, growers may coffee in shade.

An interesting sight in Guatemala is the high-away a volcano smokes lazily, while nearby the India fields are 37 varieties of coffee trees, gathered for hundreds of individual trees is numbered and its yill propagated in expectation that from them will come new

Dr. Cowgill has found Guatemalan yields to vary per year. The average is around one pound. The reserve up the average to around 3 to 5 pounds of coffee per disease can add to this average. Although suggested long-range promise is highly encouraging.

The prospect of greater efficiency in Central Amel as well as to the coffee growers. The success of this the United States extends its technical assistance to fee in Central America will come to light. Although are being made available to other coffee-producing

nd Costa Rica. USDA scientists are working shoulder ng countries. The work is part of a broader program States is giving technical assistance. On a smaller technical aid to underdeveloped countries.

rica by applying techniques similar to those used by and determination of best cultural methods are the are widely recognized for their flavor, much can be plant scientist who heads the coffee investigation

owing was in the United States when Johnny Appleseed dustry didn't get anywhere until the growers started lit. There's no reason why it too can't be improved."

frique Fernandez, a Guatemalan agricultural expert who 4.

esearchers say, is that many trees are loafers. About ng out of loafer trees and replacing them with high-stant culling that goes on in U. S. agriculture as tens. Many coffee growers are cooperating by keeping ers, in turn, have been bringing in coffee trees from supply growers with superior stock for replacement.

Iltural methods. A heavy straw mulch has been found , in holding moisture through the dry season, and in eby the costly Ojo de Gallo disease can be controlled ir. In Guatemala, researchers have learned that more ses probably can be rotated with legume crops to help to dispense with the time-honored practice of growing

ee improvement station at "Finca Chocola." Not far on steep mountain slopes. In the Chocola research world. Eventually there will be more. Each of the watched. The best -- or "noble" -- trees are being ng lines.

of a pound to as much as 14 pounds of coffee per tree now that planting of superior strains alone can bring. Improved cultural practices and better control of s cannot be put into general practice overnight, the 5.

production comes as good news to American housewives dicates the many possibilities for mutual benefit as ies.



Pollinating a coffee flower to produce a hybrid that may incorporate best features of both parent trees. The cooperative agricultural station in Guatemala has collected coffee varieties from all over the world to assist cross-breeding work such as this. Dr. William H. Cowgill, 36-year-old USDA coffee specialist of the Office of Foreign Agricultural Relations, directs the coffee improvement work at the Guatemala station. OFAR-G-592



A Guatemalan technician carrying out a grafting experiment. Results will help point the way to methods coffee planters should use in improving their production. He is grafting a scion from a high-yielding tree onto ordinary rootstock, and it is expected the tree growing out of this combination will retain the good features of the parent and yield heavily. OFAR-G-600



Another experiment on how to propagate high-yielding coffee trees is through use of cuttings. Selected twigs, or small branches, are cut from superior trees and, through special handling are caused to take root in the nursery, thereby becoming young individual trees. When old enough they are transplanted to the coffee plantations. It is expected that they will retain the good features of the parent. OFAR-G-597



8. Coffee tree, one of a group selected in El Salvador for high yielding characteristics, is inspected by Thomas Villanova (left) and Ford M. Milam. Senor Villanova is in charge of coffee improvement work at the cooperative agricultural station. Mr. Milam, of the U. S. Department of Agriculture, Office of Foreign Agricultural Relations is head agronomist at the station in El Salvador. OFAR ES-461



ways of growing coffee are objectives of the cooperative improvement work. Here is an experiment in coffee-legume rotation in Guatemala. "Hedgerows" of coffee trees (darker strips) are interspersed with soil protecting and improving legume crops (lighter strips). The hedgerows are kept trimmed to desirable size. As the coffee trees near the end of their most productive life, the legume strips will be planted to new trees. The old trees, in turn, will be torn up and planted to soil-building legumes. This rotation plan also is unusual in that it attempts to do away with customary shade and increases the number of trees per acre. OFAR-G-602



good as it tastes. Here Sr. Aldo Cabella is a professional coffee taster in the Guatemalan Coffee Bureau. By sipping the various samples of export grade coffee, he is able to classify them according to taste, aroma, and quality of processing. The coffee improvement work going on at the cooperative agricultural stations is designed to improve not only quantity but also, through introduction of new strains, quality as well. OFAR-G-487